BUSINESS MATHEMATIC

9TH CLASS

Presented by:

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SHORT QUESTIONS

Q.1- Define Profit and Percentage of Profit.

Ans. If selling price of an article is greater than the cost price. Then the difference between them is called profit. Thus

Profit = Selling Price – Cost Price

$\Rightarrow P = SP - CP \Rightarrow S.P = C.P + P.$

$$\text{Profit Percentage} = \frac{Profit}{C.P} \times 100\%$$

Q.2- Define Loss and Loss percentage?

Ans. When the selling price is less than its cost price. Then the difference between them is called loss. Thus.

Loss = Cost Price – Selling Price

$Loss = C.P - S.P \Rightarrow C.P = S.P + Loss.$

$$\text{Loss}\,\%\,age = \frac{Loss}{C.P} \times 100\%$$

Q.3- Define Marked Price, List Price and Discount.

Ans. The price printed on the wrapper of article is called marked price and the price of article given in the list provided by the factory is called list price.

A deduction of price offered by the seller on the marked price or the list price is called discount.

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السلام علیکم ورحمۃ اللہ وبرکاتہ:

معزز ممبران: آپ کا وٹس ایپ گروپ ایڈمن "**اردو بکس**" آپ سے مخاطب ہے۔

آپ تمام ممبران سے گزارش ہے کہ:

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- گروپ میں معزز، پڑھے لکھے، سلجھے ہوئے ممبرز موجود ہیں اخلاقیات کی پابندی کریں اور گروپ رولز کو فالو کریں بصورت دیگر معزز ممبرز کی بہتری کی خاطر ریموو کر دیا جائے گا۔
- کوئی بھی ممبر کسی بھی ممبر کو انباکس میں میسیج، مس کال، کال نہیں کرے گا۔ رپورٹ پر فوری ریموو کر کے کاروائی عمل میں لائے جائے گی۔
- ہمارے کسی بھی گروپ میں سیاسی و فرقہ واریت کی بحث کی قطعاً کوئی گنجائش نہیں ہے۔
- اگر کسی کو بھی گروپ کے متعلق کسی قسم کی شکایت یا تجویز کی صورت میں ایڈمن سے رابطہ کیجئے۔
- سب سے اہم بات:

گروپ میں کسی بھی قادیانی، مرزائی، احمدی، گستاخِ رسول، گستاخِ امہات المؤمنین، گستاخِ صحابہ و خلفائے راشدین حضرت ابو بکر صدیق، حضرت عمر فاروق، حضرت عثمان غنی، حضرت علی المرتضیٰ، حضرت حسنین کریمین رضوان اللہ تعالیٰ اجمعین، گستاخ اہلبیت یا ایسے غیر مسلم جو اسلام اور پاکستان کے خلاف پراپیگنڈا میں مصروف ہیں یا ان کے روحانی و ذہنی سپورٹرز کے لئے کوئی گنجائش نہیں ہے لہذا ایسے اشخاص بالکل بھی گروپ جوائن کرنے کی زحمت نہ کریں۔ معلوم ہونے پر فوراً ریموو کر دیا جائے گا۔

- تمام کتب انٹرنیٹ سے تلاش / ڈاؤنلوڈ کر کے **فری آف کاسٹ** وٹس ایپ گروپ میں شیئر کی جاتی ہیں۔ جو کتاب نہیں ملتی اس کے لئے معذرت کر لی جاتی ہے۔ جس میں محنت بھی صَرف ہوتی ہے لیکن ہمیں آپ سے صرف دعاؤں کی درخواست ہے۔
- عمران سیریز کے شوقین کیلئے علیحدہ سے عمران سیریز گروپ موجود ہے۔
- **لیڈیز کے لئے الگ گروپ کی سہولت موجود ہے جس کے لئے ویریفکیشن ضروری ہے۔**
- اردو کتب / عمران سیریز یا سٹڈی گروپ میں ایڈ ہونے کے لئے ایڈمن سے وٹس ایپ پر بذریعہ میسیج رابطہ کریں اور جواب کا انتظار فرمائیں۔ برائے مہربانی اخلاقیات کا خیال رکھتے ہوئے موبائل پر کال یا ایم ایس کرنے کی کوشش ہر گز نہ کریں۔ ورنہ گروپس سے تو ریموو کیا ہی جائے گا بلاک بھی کیا جائے گا۔

نوٹ: ہمارے کسی گروپ کی کوئی فیس نہیں ہے۔ سب فی سبیل اللہ ہے

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اللہ تبارک تعالیٰ ہم سب کا حامی و ناصر ہو

Q.4- Write the mathematical relations regarding discount.

Ans.

(i) Discount = (Marked price or List Price) × Discount %

(ii) Sale Price = (Marked or List Price) − Discount

(iii) $\text{Discount \%} = \dfrac{\text{Discount}}{\text{M.P}} \times 100$

Q.5- Define Partnership. What are its types.

Ans. An association of two or more persons who runs a business to get profit is called partnership. There are two type of partnership.

(i) Simple partnership. *(ii)* Compound partnership.

Q.6- Define simple partnership.

Ans. When the partners invest capital for the same period of time the partnership is called simple. In this case, profit or loss is distributed among partners in the ratio of capital invested by each of them.

Q.7- Define compound partnership.

Ans. When different partners invest capital for different periods of time, the partnership is known as compound. In this case, profit and loss is distributed in the ratio of products of capital and period of investment of each partner.

Q.8- A bicycle was purchased for Rs.3450 and sold for Rs.3850. Find the profit percentage.

Solution. C.P = Rs.*3450*, S.P = Rs.*3850*

Profit = Rs.*3850* − Rs.3450 = Rs.*400*

$$\text{Profit \%age} = \frac{\text{Profit}}{\text{Cost.P}} \times 100 = \frac{400}{3450} \times 100$$

$$= 11.6\%$$

Q.9- A book is sold for Rs.650 at a profit of 30%. Find the cost price.

Solution. S.P = Rs.650

Profit % age = 30 %

$$\text{C.P} = \frac{100}{100 + \text{Profit \% age}} \times \text{S.P}$$

$$= \frac{100}{100 + 30} \times 650 = \text{Rs. } 500 \text{ Ans.}$$

Q.10- A boy bought a book for Rs.575 and sold it for Rs.320 what was the loss % age.

Solution. C.P = Rs.575, S.P = Rs.320

Loss = Rs.575 – Rs.320 = Rs. 255

$$\text{Loss \% age} = \frac{\text{Loss}}{\text{C.P}} \times 100$$

$$= \frac{255}{575} \times 100 = 44.34\%$$

Q.11- Marked price of dinner set is Rs.8450. The store offers 10% discount what is the sale price of dinner set ?

Solution. M.P = Rs.8450

Discount = 10% of M.P.

$$= \frac{10}{100} \times 8450 = Rs.845$$

Sale Price = M.P – Discount

= Rs.8450 – Rs.845 = Rs.7605

Q.12- The share of three partners are in the ratio 2:3:5. Find the share of each in the loss of Rs.10,00,000.

Solution. Given Ratio = $2 : 3 : 5$

Sum of ratios = $2 + 3 + 5 = 10$

$$\text{Share of 1st partner} = \frac{2}{10} \times 1000000 = \text{Rs.}200000$$

$$\text{Share of 2nd partner} = \frac{3}{10} \times 10{,}00{,}000 = \text{Rs.}30{,}00.00$$

Share of 3rd partner $= \frac{5}{10} \times 10,00000 = \text{Rs.}500,000$

Q.13- Umer and Ali invested Rs.3,00,000 and Rs.5,00,000 respectively and earned a profit of 2,20,000 from a business. Find the share of each in profit.

Solution. Ratio : Umer : Ali

$3,00,000 : 5,00,000$

$3 : 5$

Sum of ratios $= 3 + 5 = 8$

Profit $= \text{Rs.}2,20,000$

Umer's share $= \frac{3}{8} \times 22,0000 = \text{Rs.}82,500$ Ans.

Ali's share $= \frac{5}{8} \times 220,000 = \text{Rs.}1,37,500$ Ans.

SOLVED EXERCISES

EXERCISE 3.1

Q.1- Find the SP, when

(i) **CP = Rs.950, Profit = 10%**

(ii) **CP = Rs.1540, Loss = 5%**

(iii) **CP = Rs.9600, Profit = 10%**

(iv) **CP = Rs.126000, Loss = 5%**

(v) **CP = Rs.480, Profit = 3%**

(vi) **CP = Rs.760, Loss = 4%**

Solution:-

(i) C.P = Rs.*950*, Profit = *10%*

Profit = *10%* of C.P

$\therefore = \frac{10}{100} \times 950 = Rs.95$

S.P = C.P + Profit

= Rs.*950* + Rs.*95* = Rs.*1045* Ans.

(ii) C.P = Rs.1540, Loss = 5%

Loss = 5% of C.P

$$= \frac{5}{100} \times 1540 = Rs.77$$

S.P = C.P − Loss

= Rs.1540 − Rs.77 = Rs.1463 Ans.

(iii) C.P = Rs.9600, Profit = 10%

Profit = 10% of C.P

$$= \frac{10}{100} \times 9600 = Rs.960$$

S.P = C.P + Profit

= $9600 + 960$ = Rs.10560 *Ans.*

(iv) C.P = Rs.126000, Loss = 5%

Loss = 5% of C.P

$$= \frac{5}{1\cancel{00}} \times 1260\cancel{00} = Rs.6300$$

S.P = C.P − Loss

= Rs.126000 − Rs.6300 = Rs.119700 Ans.

(v) C.P = Rs.480, Profit = 3%

Profit = 3% of C.P

$$= \frac{3}{100} \times 480$$

= Rs.14.40

S.P = C.P + Profit

= Rs.480 + Rs.14.40 = Rs.494.40 Ans.

(vi) C.P = Rs.760, Loss = 4%

Loss = 4% of C.P

$$= \frac{4}{100} \times 760 = Rs.30.40$$

S.P = C.P − Loss

= Rs.760 − Rs.30.40 = Rs.729.60 Ans.

Q.2- Haris purchased a car for Rs.248000 and spent Rs.12000 on its denting and painting. He sold that at a profit of 5%. What did the customer pay to Haris?

Solution:-

Cost Price = Amount for Purchasing + Amount for denting and Painting

$\therefore$ C.P = Rs.248000 + Rs.12000

= Rs.260000

Profit = 5% *of* C.P.

$$= \frac{5}{100} \times 260000 = Rs.13000$$

S.P = C.P + Profit = Rs.260000 + Rs.13000

= Rs.273000

Thus the customer paid Rs.273000 to Haris. Ans.

Q.3- Find the CP, when

(i) **SP = Rs.672, Profit = 5%**

(ii) **SP = Rs. 851, Loss = 8%**

(iii) **SP = Rs.1755, Profit = $12\frac{1}{2}\%$**

(iv) **SP = Rs. 2640, Loss = 12%**

(v) **SP = Rs.100, Profit = $33\frac{1}{2}\%$**

Solution:-

(i) S.P = Rs.672, Profit = 5%

$$C.P = \frac{100}{100 + \text{Profit \% age}} \times S.P$$

$$= \frac{100}{100 + 5} \times 672$$

$$= \frac{67200}{105} = \frac{13440}{21} = 640$$

C.P = Rs.640 Ans.

(ii) S.P = Rs.851, Loss = 8%

$$C.P = \frac{100}{100 - \text{Loss \% age}} \times S.P$$

$$= \frac{100}{100 - 8} \times 851$$

$$= \frac{\overset{25}{\cancel{100}}}{\underset{4}{\cancel{92}}} \times \overset{37}{\cancel{851}} = \text{Rs.}925 \text{ Ans.}$$

(iii) $SP = Rs.1755, Profit = 12\frac{1}{2}\% = 12.50\%$

$$C.P = \frac{100}{100 + \text{Profit \% age}} \times S.P$$

$$= \frac{100}{100 + 12.50} \times 1755 = \frac{175500}{112.50}$$

$= \text{Rs.}1560$ Ans..

(iv) S.P = Rs.2640, Loss = 12%

$$C.P = \frac{100}{100 - \text{Loss \% age}} \times S.P$$

$$= \frac{100}{100 - 12} \times 2640$$

$$= \frac{100}{\cancel{88}} \times \overset{30}{\cancel{2640}} = \text{Rs.}3000$$

$\therefore$ C.P = Rs.3000 Ans.

(v) S.P = Rs.100, Profit = 33.5%

$$C.P = \frac{100}{100 + \text{Profit \% age}} \times S.P$$

$$= \frac{100}{100 + 33.5} \times 100 = \frac{10000}{133.5} = \text{Rs.}75 \text{ Ans.}$$

Q.4- A shop-keeper gains a profit of 7% by selling a dinner set for Rs.3852. If he sells it for Rs.4050, find his profit percentage.

Solution:-

S.P = Rs.3852, Profit = 7%

$$C.P = \frac{100}{100 + \text{Profit \% age}} \times S.P$$

$$= \frac{100}{100+7} \times 3852 \frac{100}{\cancel{102}} \cancel{385.2}^{36}$$

C.P = Rs.3600

Now again

C.P = Rs.3600 and S.P = Rs.4050

Profit = S.P − C.P

= Rs.4050 − Rs.3600 = Rs.450

$$\text{Profit \% age} = \frac{\text{Profit}}{C.P} \times 100$$

$$= \frac{450}{36\cancel{00}} \times 1\cancel{00} = \frac{50}{4}$$

$$= 12.5\% = 12\frac{1}{2}\% \text{ Ans.}$$

Q.5- The selling price of 12 articles is equal to the cost price of 15 articles. Find profit percentage.

Solution:-

Let cost price of 15 articles = Rs.100

So sale price of 12 articles = Rs.100

and sale price of 15 articles $= \frac{100}{12} \times 15$ = Rs.125

So Profit = S.P − C.P = Rs.125 − Rs.100 = 25

$$\text{Profit \% age} = \frac{\text{Profit}}{C.P} \times 100$$

$$= \frac{25}{100} \times 100 = 25\% \text{ Ans.}$$

Q.6- Find the cost price, if a fan is sold for Rs.1470, to get a profit $\frac{1}{6}$ the of its cost price.

Solution:-

Selling price = Rs.*1470*

$$\text{Profit} = \frac{1}{6} \text{ of C.P.}$$

Thus.

$$\text{S.P} = \text{C.P} + \text{Profit}$$

$$\text{S.P} = \text{C.P} + \frac{1}{6}(\text{C.P})$$

$$\text{S.P} = \left(1 + \frac{1}{6}\right) \times \text{C.P}$$

$$= \frac{7}{6}\text{C.P}$$

$$\text{C.P} = \frac{6}{7}.\text{S.P}$$

$$= \frac{6}{7} \times (1470) = \text{Rs.}1260 \text{ Ans.}$$

Q.7- A man sold an almirah at a profit of $7\frac{1}{2}\%$, had he sold it for Rs.209, he would have lost 2%. For how much the man purchased it?

Solution:-

S.P = Rs.*209*

Loss = *2 %*, C.P = ?

$$\text{C.P} = \frac{100}{100 - \text{Loss\%age}} \times \text{S.P}$$

$$= \frac{100}{100 - 2} \times 209 = \frac{100}{98} \times 209 = \text{Rs.}213 \text{ Ans.}$$

Q.8- Three chairs are purchased at Rs.450 each. One of these is sold at a loss of 10%. At what price should the other two be sold so as to gain 20% on the whole transaction?

Solution:-

C.P of each chairs = Rs.450

For $1st$ chair

Loss = 10% = 10% of C.P

$$= \frac{10}{100} \times 450 = \text{Rs.}45$$

$\therefore$ S.P = C.P − Loss = Rs.450 − Rs.45

S.P = Rs.405

For the whole transaction.

Profit = 20%

= 20% of C.P

$$= \frac{20}{100} \times 1350 = \text{Rs.}270$$

S.P of the three chairs

= C.P + Profit = $1350 + 270$ = Rs.1620

S.P of other two chairs = S.P of three chairs − S.P of 1st chair

= Rs.1620 − Rs.405 = Rs.1215 Ans.

EXERCISE 3.2

Q.1- Find the selling price, when

(i) **MP = Rs.728, Discount = 6%**

(ii) **MP = Rs.2760, Discount = 5%**

(iii) **MP = Rs.395.75, Discount = 8%**

Solution:-

(i) M.P = Rs.728, Disc = 6%

Disc = 6% of M.P

$$= \frac{6}{100} \times 728 = \text{Rs.}43.68$$

Thus S.P = M.P − Disc

= Rs.728 − Rs.43.68

= Rs.684.32 Ans.

(ii) M.P = Rs.2760, Disc = 5%

Disc = 5% of M.P

$$= \frac{5}{100} \times 2760 = \text{Rs.}138$$

Thus S.P = M.P − Disc

= Rs.2760 − Rs.138

= Rs.2622 Ans.

(iii) M.P = Rs.395.75, Disc = 8%

Disc = 8% of M.P

$$= \frac{8}{100} \times 395.75 = 31.66$$

Thus S.P = M.P − Disc = Rs.395.75 − Rs.31.66

= Rs.364.08 Ans.

Q.2- Find the marked price, when

(i) SP = Rs.515.20, Discount = 8%

(ii) SP = Rs.858, Discount = 12%

(iii) SP = Rs.2400, Discount = 4%

Solution:-

(i) S.P = Rs.515.20, Disc = 8%

$$\text{M.P} = \left(\frac{100}{100 - \text{Dice}}\right) \times \text{S.P}$$

$$= \frac{100}{100 - 8} \times 515.20$$

$$= \frac{100}{92} \times 515.20 \quad = \text{Rs.}560 \textit{ Ans.}$$

(ii) S.P = Rs.858, Disc = 12%

$$M.P = \frac{100}{100 - \text{Dice}} \times S.P$$

$$= \frac{100}{100 - 12} \times 858$$

$$= \frac{100}{88} \times 858 = \text{Rs.}975 \text{ Ans.}$$

(iii) S.P = Rs.2400, Disc = 4%

$$M.P = \left(\frac{100}{100 - \text{Dice}}\right) \times S.P$$

$$= \frac{100}{100 - 4} \times 2400$$

$$= \frac{\overset{25}{\cancel{100}}}{\underset{24}{\cancel{96}}} \times 2400 = \text{Rs. } 2500 \text{ Ans.}$$

Q.3- The marked price of a ceiling fan is Rs.720. It is sold for Rs.684. What percentage discount is being allowed?

Solution:-

M.P = Rs.720, S.P = Rs.684

Disc = M.P – S.P = Rs.720 – Rs.684 = Rs.36

$$\text{Disc \%age} = \frac{\text{Dise}}{\text{M.P}} \times 100$$

$$= \frac{36}{720} \times 100 = 5\% \text{ Ans.}$$

Q.4- The marked price of washing machine is Rs.3640. During sale season it is sold for Rs.3367. What percent sale discount is being given.

Solution:-

M.P = Rs.3640, S.P = Rs.3367

Disc = Rs.3640 – Rs.3367 = Rs.273

$$\text{Disc \% age} = \frac{\text{Dise}}{\text{M.P}} \times 100$$

$$= \frac{273}{3640} \times 100 = \frac{390}{52} = \frac{30}{4} = \text{Rs.}7.5\% \text{ Ans.}$$

Q.5- The marked price of a book is Rs.480. The shopkeeper offers a discount of 10 % and still gains 8%. Find the price at which the shopkeeper purchased it.

Solution:-

$\text{Disc} = 10\%$

$= 10\% \text{ of M.P}$

$$= \frac{10}{100} \times 480 = \text{Rs.}48$$

$\text{S.P} = \text{M.P} - \text{Disc}$

$= 480 - 48 - \text{Rs.}432$

Now

$$\text{C.P} = \frac{100}{100 + \text{Profit \% age}} \times \text{S.P}$$

$$= \frac{100}{100+8} \times 432$$

$$= \frac{100}{108} \times 432 = \text{Rs.}400 \text{ Ans.}$$

Q.6- A trader marks his goods in such a way that after allowing a discount of 10%, he gains 15%. If an article costs him Rs.720. What is its, marked price?

Solution:-

$\text{C.P} = \text{Rs.}720$

$\text{Profit} = 15\%$

$\text{Profit} = 15\% \text{ of C.P}$

$$= \frac{15}{100} \times 720$$

$= \text{Rs. } 108$

$S.P = C.P + \text{Profit.}$

$= \text{Rs.}720 + \text{Rs.}108 = \text{Rs.}828$

Now $M.P = \dfrac{100}{100 - \text{Disc \% age}} \times S.P$

$= \dfrac{100}{100 - 10} \times 828$

$= \dfrac{100}{90} \times 828 = \text{Rs.}920$ Ans.

Q.7- The list price of a TV is Rs.12600. A discount of 5% is allowed on it. Further for cash payment a second discount of 2% is given. How much cash payment is to be made for buying it?

Solution:-

List Price $= \text{Rs.}12600$

Disc $= 5\%$ of L.P

$= \dfrac{5}{100} \times 12600 = \text{Rs.}630$

$S.P = L.P - \text{Disc}$

$= \text{Rs.}12600 - \text{Rs.}630 = \text{Rs.}11970$

Disc for Cash Payment $= 2\ \%$

$= 2\%$ of Cash

$= \dfrac{2}{100} \times 11970 = \text{Rs.}239.40$

Cash Price $= \text{Rs.}11970 - 239.40 = \text{Rs. } 11730.60$ Ans.

Q.8- If 15 % discount on MP of a heater is allowed and still makes a profit of 2%. if it is sold on MP, what is profit percentage?

Solution:- Let us suppose.

$M.P = \text{Rs.}100$

$\text{Disc} = 15\% = \text{Rs.}15$

$S.P = M.P - Disc$

$= Rs.100 - Rs.15$

$S.P = Rs.85$

Profit % age = 2%

$$C.P = \frac{100}{100 + \text{Profit \% age}} \times S.P$$

$$= \frac{100}{102} \times 85 = \frac{\overset{500}{\cancel{8500}}}{\underset{6}{\cancel{102}}} = \frac{250}{3}$$

$C.P = Rs.83.33$

Now if the heater is sold on Marked price = Rs.100

Profit = S.P − C.P

$= 100 - 83.33 = Rs.16.67$

Thus Profit % age is

$$= \frac{\text{Profit}}{C.P} \times 100$$

$$= \frac{\cancel{16.67}}{\cancel{83.33}} \times 100$$

$= 20\%$ Ans.

EXERCISE 3.3

Q.1- Distribute Rs.200,000 as profit in a business regarding three persons, if their shares are in the ratio 3 : 2 : 5.

Solution:-

Let the three persons be named as A, B and C. So

Profit = Rs. $200,000$

Given ratio

A	:	B	:	C
3	:	2	:	5

Sum of ratios = $3 + 2 + 5 = 10$

$$\text{A's Share} = \frac{3}{1\not{0}} \times 20000\not{0} = \text{Rs.}60000 \text{ Ans.}$$

$$\text{B's Share} = \frac{2}{10} \times 200000 = \text{Rs.}40000 \text{ Ans.}$$

$$\text{C's Share} = \frac{5}{10} \times 200000 = \text{Rs.}100000 \text{ Ans.}$$

Q.2- If Ali, Daniyal and Abdullah earned 15% profit against an investment of Rs.750,000. Find the profit of each if their shares are in the ration 2 : 3 : 5.

Solution:-

Investment = Rs. $750,000$

Profit = 15 % of investment

$$= \frac{15}{1\not{0}\not{0}} \times 750,0\not{0}\not{0} = \text{Rs. } 112500$$

Given Ratio :

Ali	:	Daniyal	:	Abdullah
2	:	3	:	5

Sum of ratios = $2 + 3 + 5 = 10$

$$\text{Ali's Share} = \frac{2}{10} \times 112500 = \text{Rs.}22500 \text{ Ans.}$$

$$\text{Daniyl's Share} = \frac{3}{10} \times 112500 = \text{Rs.}33750 \text{ Ans.}$$

$$\text{Abdullah's Share} = \frac{5}{10} \times 112500 = \text{Rs.}56250 \text{ Ans.}$$

Q.3- Distribute Rs.720 as profit amongst three people, so that their shares are in the ratio 3 : 4 : 5.

Solution:-

Profit = Rs. 720

Given Raito = $3 : 4 : 5$

Sum of ratios = $3 + 4 + 5 = 12$

$$\text{First Share} = \frac{3}{12} \times 720 = \text{Rs.}180 \text{ Ans.}$$

$$\text{2nd Share} = \frac{4}{12} \times 720 = \text{Rs.}240 \text{ Ans.}$$

$$\text{3rd Share} = \frac{5}{12} \times 720 = \text{Rs.}300 \text{ Ans.}$$

Q.4- Three persons invested an amount of Rs.3,000,000 in a business with shares ratio 2 : 3 : 7. They earned a profit of Rs. 600,000. If they are interested to wind up their business, what amount every share holder would get?

Solution:-

Total investment = Rs. 3,000,000

Given Raito = 2 : 3 : 7

Sum of ratios = 2 + 3 + 7 = 12

$$\text{Investment of first partner} = \frac{2}{\cancel{12}} \times \overset{250000}{\cancel{3000000}} = \text{Rs.}500000$$

$$\text{Investment of 2nd partner} = \frac{3}{12} \times 3000000 = \text{Rs.}750000$$

$$\text{Investment of 3rd partner} = \frac{7}{12} \times 3000000 = \text{Rs.}1750000$$

Now

Total Profit = Rs. 600,000

$$\text{Profit of 1st partner} = \frac{2}{12} \times 600000 = \text{Rs.}100{,}000$$

$$\text{Profit of 2nd partner} = \frac{3}{12} \times 600000 = \text{Rs.}150{,}000$$

$$\text{Profit of 3rd partner} = \frac{7}{12} \times 600000 = \text{Rs.}350{,}000$$

Now Amount of each partner is

Amount of 1st Partner = Investment + Profit

= Rs. *500000* + Rs. *100,000* = Rs. *600,000* *Ans.*

Amount of 2nd Partner = Rs. *750000* + Rs. *150,000*

= Rs. *900000* Ans.

Amount of 3rs Partner = Rs. *1750000* + Rs. *350,000*

= Rs. *2100000* Ans.

Q.5- Three member of a firm divide the profit Rs.67,200 among themselves in the ratio 2 : 3 : 7. What is the biggest share of the profit?

Solution:-

Profit = Rs. *67,200*

Given Raito = $2 : 3 : 7$

Sum of ratios = $2 + 3 + 7 = 12$

Biggist Share = $\frac{7}{12} \times \overset{5600}{\cancel{67200}}$ = Rs.*39200* Ans.

Q.6- A sum of money is divided among three persons. A,B and C in the ratio 10 : 7 : 5. If "B" gets Rs. 14 more than "C". How much will "A" get and what is the total sum of money?

Solution:-

As the given Ratio is

A	:	B	:	C
10	:	7	:	5

So let money of each person be $10x$, $7x$ and $5x$ respectively.

By the given condition.

B's Money – C's Money = Rs. *14*

$$7x - 5x = 14$$

$$2x = 14$$

$$x = 7$$

Thus A's Money $= 10x = 10 \times 7 =$ Rs. 70

Total sum of Money $= 10x + 7x + 5x$

$= 22x = 22 \times 7$

$=$ Rs. 154 Ans.

Review Exercise-3

Q.1- Encircle the correct answer.

(i) Profit is earned when:

(a) SP = CP *(b)* SP < CP

(c) SP > CP *(d)* none of these

(ii) Loss is there when:

(a) SP = CP *(b)* SP < CP

(c) SP = MP *(d)* SP > CP

(iii) Profit % = ? where SP > CP:

(a) $\frac{Profit}{CP}$ *(b)* $\frac{Profit}{CP} \times 100$

(c) $\frac{CP \times Profit\,\%}{100}$ *(d)* $\frac{100 \times SP}{100 + Profit\,\%}$

(iv) SP = ? where SP > CP:

(a) Profit – CP *(b)* $\left(\frac{100 + Profit\,\%}{100}\right) \times CP$

(c) CP – Loss *(d)* $\frac{CP \times Loss\,\%}{100}$

(v) CP = ? :

(a) $\frac{100 \times SP}{100 + Profit\,\%}$ *(b)* loss – SP

(c) MP + discount *(d)* $\frac{Discount \times 100}{MP}$

Ans.

(i) *(c)*	*(ii)* *(b)*	*(iii)* *(b)*	*(iv)* *(b)*	*(v)* *(a)*

Q.2- Fill in the blanks.

(i) The price at which a particular item is purchased is called________.

(ii) The price at which an article is sold out is called ____.

(iii) When SP > CP, CP = SP − ?________.

(iv) When SP < CP, Loss % = ________.

(v) $MP = \frac{100 \times SP}{?}$ ________.

Ans.

(i) Cost Price	(ii) Sale Price	(iii) Profit
(iv) $\frac{C.P - S.P}{C.P} \times 100$	(v) 100 − Disc % age	

Q.3- A shopkeeper gains a profit of 8% by selling a washing machine for Rs.12000. If he sells it for Rs.10,500, find his profit percentage.

Solution:-

$S.P = Rs.12000, \quad Profit = 8\%$

$$C.P = \frac{100}{100 + \text{Profit \% age}} \times S.P$$

$$= \frac{100}{108} \times 12000 = \frac{100000}{9} = Rs.11111.11$$

Now if S.P = Rs.10500

Now S.P < C.P. So loss is incurred.

$\therefore Loss = C.P - S.P = 11111.11 - 10500 = Rs.611.11$

$$\text{Loss \% age} = \frac{Loss}{C.P} \times 100$$

$$= \frac{611.11}{11111.11} \times 100$$

```
        5.5
1111)61111
     55555
     55560
```

$= 5.5\%$ Ans.

Q.4- If there is a 10% discount on marked price of a television and still makes a profit of 5%. If it is sold in marked price, what is profit percentage?

Solution:-

Let us suppose

$M.P = Rs.100$

$Disc = 10\%$ of M.P

$= \frac{10}{100} \times 100 = Rs.10$

$S.P = M.P - Disc = 100 - 10 = Rs.90$

$Profit = 5\%$. So

$$C.P = \frac{100}{100 + \text{Profit \%age}} \times S.P$$

$$= \frac{100}{105} \times 90 = \frac{20}{21} \times 90 = \frac{600}{7} = 85.71$$

$\therefore C.P = Rs.85.71$

Now If T.V is sold on M.P

$S.P = Rs.100$

$Profit = S.P - C.P = Rs.100 - Rs.85.71 = Rs.14.30$

$$\text{Profit \%age} = \frac{\text{Profit}}{C.P} \times 100$$

$$= \frac{14.30}{85.70} \times 100 = \frac{100}{6} = 16.6\% \text{ Ans.}$$

Q.5- Distribute Rs.33,000 as a profit in a business regarding three persons, if their shares are in the ratio 3:5:3.

Solution:-

$Profit = Rs.33.000$

Ratio among shares.

1st	:	2nd	:	3rd
3	:	5	:	3

Sum of ratios $= 3 + 5 + 3 = 11$

Share of 1st Partner $= \frac{3}{11} \times 33000 =$ Rs.9000 Ans.

Share of 2nd Partner $= \frac{5}{11} \times 33000 =$ Rs.15000 Ans.

Share of 3rd Partner $= \frac{3}{11} \times 33000 =$ Rs.9000 Ans.

Q.6- Three members of a firm divide the profit amounting Rs.1,44,000 among themselves in the ratio 3:4:5.

(i) **What is the biggest share of the profit?**

(ii) **What is the smallest share of the profit?**

Solution:-

The profit, that is to be distributed = Rs.$1,44,000$

Given Ratios $= 3 : 4 : 5$

Sum of ratios $= 3 + 4 + 5 = 12$

(i) The Biggest share $= \frac{5}{12} \times 144000 =$ Rs.$60,000$ Ans.

(ii) The Samlliest share $= \frac{3}{12} \times 144000 =$ Rs.36000 Ans.

Multiple Choice Question

Tick ✔ the Correct Choice.

(i) Profit is equal to

(a) S.P – C.P *(b)* C.P – S.P

(c) Discount *(d)* Non of these

(ii) Profit % age is equal to

(a) $\frac{\text{Profit}}{\text{C.P}} \times 100$ *(b)* $\frac{\text{Profit}}{\text{S.P}} \times 100$

(c) $\frac{\text{C.P}}{\text{Profit}} \times 100$ *(d)* Non of these

(iii) If C.P = 200 and S.P = 240 then Profit % age is

(a) 10% (b) 20%

(c) 40% (d) 50%

(iv) A book is sold for Rs.650 at a profit of 30%. Its Cost Price is

(a) Rs.400 (b) Rs.500

(c) Rs.600 (d) Rs.550

(v) Loss % age is equal to

(a) $\frac{\text{Loss}}{\text{S.P}} \times 100$ (b) $\frac{\text{Loss}}{\text{C.P}} \times 100$

(c) $\frac{\text{C.P}}{\text{Loss}} \times 100$ (d) $\frac{\text{S.P}}{\text{Loss}} \times 100$

(vi) Loss is incurred if

(a) S.P > C.P (b) C.P < C.P

(c) C.P = S.P (d) C.P ≠ S.P

(vii) If C.P = Rs.950, Profit = 10% then S.P is

(a) Rs.1050 (b) Rs.1045

(c) Rs.1105 (d) Rs.995

(viii) Difference between Marked Price and the Selling Price is called.

(a) Profit (b) Loss

(c) Discount (d) Tex

(ix) If M.P = Rs.2760. Discount = Rs.5%. Then Selling Price is

(a) Rs.2620 (b) Rs.2622

(c) Rs.2624 (d) Rs.2626

(x) When Partners invest capitals for different periods of times, the partnership is called

(a) Simple (b) Compound

(c) Mixed (d) Ordinary

(xi) Loss is equal to

(a) C.P – S.P *(b)* S.P – C.P

(c) M.P – S.P *(d)* Discount

(xii) The rebate on marked Price is called

(a) Commission *(b)* Profit

(c) Discount *(d)* Loss

(xiii) Discount is equal to

(a) M.P – S.P *(b)* S.P – M.P

(c) S.P + Profit *(d)* Loss

Model Class Test

Q.1- Encircle the Correct Answer.

(i) Loss is equal to

(a) S.P – C.P *(b)* C.P – S.P

(c) M.P – S.P *(d)* S.P – M.P

(ii) C.P = Rs.*250*, S.P = Rs.*265*, Then Profit % age is

(a) 5% *(b) 6%*

(c) 7% *(d) 8%*

(iii) M.P = Rs.*400*, S.P = Rs.*360*, Then discount % age is

(a) 5% *(b) 10%*

(c) 20% *(d) 15%*

(iv) Investors invest capital for the same period of time, the partnership is

(a) Simple *(b)* Complex

(c) Compound *(d)* Mixed

(v) In ratio, share of each partner is

(a) Capital × Period *(b)* $\frac{\text{Capital}}{\text{Period}}$

(c) Capital + Period *(d)* Capital – Period

(vi) Profit % age is equal to

(a) $\frac{\text{Profit}}{\text{S.P}} \times 100$ (b) $\frac{\text{Profit}}{\text{C.P}} \times 100$

(c) $\frac{\text{S.P} - \text{C.P}}{\text{S.P}} \times 100$ (d) $\frac{\text{S.P} - \text{C.P}}{\text{C.P}} \times 100$

(vii) S.P + Loss = ...

(a) C.P (b) M.P

(c) M.P – C.P (d) C.P – M.P

Q.2- Solve any five short questions.

(i) Find Profit % age if C.P = Rs.3450 and S.P = Rs.3850

(ii) Find C.P if S.P = Rs.650 and Profit % age = Rs.30%

(iii) Find Selling Price of a toy if the Marked Price is Rs.720 and 2% Discount is given.

(iv) Find the discount % age if a book with marked value Rs.340 is sold for Rs.306.

(v) Define Compound Partnership?

(vi) Distribute Rs.200,000 in three Persons in the ratio 3 : 2 : 5.

(vii) The Profit of Rs.67,200 is to be divided among three persons in the ratio 2 : 3 : 7. Find biggest share.

Q.3- Attempt any two questions.

(i) If the selling price of 10 articles is, equal to the cost price of 11 articles. Find the profit percentage.

(ii) A shopkeeper offers a discount of 15% on the marked price. How much percentage increase in cost price should be to mark the goods to give a profit of 19%.

(iii) By selling 100 Oranges, a vendor gains the selling price of 20 Oranges. Find the profit percentage.